Validating the Satisfaction and Continuance Intention of E-Learning Systems: Combining TAM and IS Success Models

Tung-Cheng Lin, National Taipei University of Nursing and Health Sciences, Taiwan
Ching-Jen Chen, National Taipei University of Nursing and Health Sciences, Taiwan

ABSTRACT

Many e-learning studies have evaluated learning attitudes and behaviors, based on TAM. However, a successful e-learning system (ELS) should take both system and information quality into account by applying ISM developed by Delone and McLean. In addition, the acceptance for information system depends on the perceived usefulness and ease of use according to TAM. This research combined TAM with ISM by introducing system quality, quality of platform information, and course information as an antecedent of perceived usefulness and perceived ease of use. These factors were crucial for understanding users' intention to continue their use of ELS. This study investigated 412 students with ELS experiences. The results indicate that system quality, platform information, and course information had significantly related to user satisfaction and their intention to use ELS continuously.

Keywords: E-Learning, IS Success Model, Satisfaction, Structural Equation Modeling, TAM

INTRODUCTION

E-learning has evolved incrementally from distance learning, computer learning, to e-learning and blended learning. Whatever it becomes, a system platform as a learning medium remains intrinsically indispensable. Therefore, the quality of an e-learning system (ELS) will have a strong impact on its acceptance and satisfaction (Chiu, Hsu, Sun, & Lin, 2005; Rhee, Moon, & Choe, 2006; Walker & Johnson, 2008).

Users’ acceptance and satisfaction come largely from the usefulness and friendliness of ELS. A review of literature indicated that a plethora of studies had applied Technology Accept Model (TAM) to evaluated users’ perceived usefulness and friendliness after using ELS (Roca, Chiu, & Martínez, 2006; Lee, 2006; Pituch & Lee, 2006; Lim, Lee, & Nam, 2007; Ngai, Poon, & Chan, 2007; Toral, Barrero, & Martínez-Torres, 2007; Martínez-Torres et al., 2008).

Still more, users’ acceptance of ELS depends on not only its quality but also the learning
courses and contents. Therefore, this is timing to
shift research focus from the platform construct
to the courses and their contents design. The
Information Systems Success Model (ISM)
developed by Delone and McLean’s (1992)
takes both information quality and system
quality seriously. Any successful information
system should not ignore any one of the two
qualities. Roca et al. (2006) also argued that
any examination of factors related to e-learning
satisfaction remain insufficient without includ-
ing information quality.

This study has a contribution of combining
ISM with TAM by incorporating major system
characteristics, such as system quality, course
information, and platform information qual-
ity. Our model provides a useful framework
of examining users’ intention for using ELS
continuously. The Structural Equation Model
(SEM) was performed using the AMOS 5.0
software to test proposed framework.

THEORETICAL BACKGROUND
AND HYPOTHESES

Technology Acceptance Model

David (1989) proposed TAM that the perceived
usefulness and the perceived ease of use are
important antecedents for information system
acceptance. TAM was applied to explain and
predict user’s behavior of accepting technology
products. Meanwhile, it recognizes external
variables as affecting perceived usefulness,
perceived ease of use, and intention of adopt-
ing that information system. Until now, TAM
has been widely adopted to examine assorted
technology products and related topics of the
Internet activities, such as web browser and
E-store (Ngai et al., 2007).

Since e-learning also involves internet
use, several studies used TAM to examine
ELS acceptance behavior (Lee, 2006; Pituch
& Lee, 2006; Roca et al., 2006; Ngai et al.,
2007; Walker & Johnson, 2008). Pituch and
Lee (2006) recognized system characteristics
as important variables affecting ELS user
behavior and further classified system char-
acteristics into functionality, interactivity and
response. Pituch and Lee (2006) also argued
that system characteristics, self-efficacy and
internet experience will affect ELS use. Ngai
et al. (2007) examined technical support of
system platform affected perceived usefulness
and perceived ease of use, further determined
attitude and intention of use.

In line with the TAM model, this study
assumes the relationship among perceived
usefulness, perceived ease of use, satisfaction
to ELS, and continuance intention as the fol-
lowing five hypotheses:

H1: Perceived usefulness positively affects
continuance intention.
H2: Satisfaction to ELS positively affects
continuance intention.
H3: Perceived usefulness positively affects
satisfaction to ELS.
H4: Perceived ease of use positively affects
satisfaction to ELS.
H5: Perceived ease of use positively affects
perceived usefulness.

Information System Success
Model (ISM) and the
Relationship with TAM

According to ISM, the system quality and in-
formation quality will affect user satisfaction;
in hence, both will influence individual impact
and organizational impact (Delone & McLean,
1992). System quality evaluates the information
processing system itself, whereas information
quality represents the quality of information
system output. Shaw, DeLone and Niederman
(2002) claimed that service quality has positive
influence on user satisfaction. Pitt, Watson, and
Kavan (1995) also recognized that successful
information system should include the concept
of service quality to evaluate its efficacy; oth-
wise, the result will be incomplete. Due to
the emerging World Wide Web circumstance,
this model finally had extended, and the service
quality was included to evaluate the success of
e-commerce systems in the internet era (Delone
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